

### **Moles of Elements: One Step Problems**

- 1) 2.000 mole or 2.00 moles if you based sig figs off of the 6.02....
- 2) 0.500 mole
- 3) 0.6000 mole or 0.600 mole if you based sig figs off of the 6.02
- 4)  $2 \times 10^{-22}$  mole
- 5)  $2 \times 10^{-24}$  mole
- 6) 2.0 mole
- 7) 0.500 mole
- 8) 4.30 mole
- 9) 100 mole
- 10)  $2.48 \times 10^{-4}$  mole
- 11) 230 g
- 12) 261 g
- 13) 539 g
- 14) 0.0591 g
- 15)  $1.08 \times 10^8$  g
- 16)  $1.81 \times 10^{24}$  atoms
- 17)  $5.112 \times 10^{24}$  atoms
- 18)  $1.51 \times 10^{25}$  atoms
- 19)  $6.02 \times 10^{20}$  atoms
- 20)  $6.0 \times 10^{18}$  atoms

### **Moles of Compounds: One Step Problems**

- 1) 1.00 moles
- 2) 0.300 moles
- 3) 0.251 moles
- 4)  $2 \times 10^{-21}$  moles
- 5)  $2 \times 10^{-24}$  moles
- 6) 2.0 moles
- 7) 0.500 moles
- 8) 20.0 moles
- 9) 0.918 moles
- 10) 0.0171 moles
- 11) 85 g
- 12) 262 g
- 13) 11 g
- 14) 0.284 g
- 15) 0.0215 g
- 16)  $1.2 \times 10^{24}$  molecules
- 17)  $1.1 \times 10^{24}$  molecules
- 18)  $2.11 \times 10^{25}$  molecules
- 19)  $3.01 \times 10^{22}$  molecules
- 20)  $6.02 \times 10^{20}$  molecules

## Moles of Elements: Two Step Problems

(Number in parentheses is the answer obtained at the end of the first step. It may help you to track any errors.)

- |                                 |                                |
|---------------------------------|--------------------------------|
| 1) 40.1 g                       | (1.0 mole)                     |
| 2) 41.80 g                      | (0.2 mole)                     |
| 3) 29.3 g                       | (0.5 mole)                     |
| 4) $4 \times 10^{-20}$ g        | ( $1.66 \times 10^{-21}$ mole) |
| 5) $4 \times 10^{-23}$ g        | ( $1.66 \times 10^{-24}$ mole) |
| 6) $1.20 \times 10^{25}$ atoms  | (20.01 mole)                   |
| 7) $8.99 \times 10^{23}$ atoms  | (1.49 mole)                    |
| 8) $6.02 \times 10^{22}$ atoms  | (0.099 mole)                   |
| 9) $5 \times 10^{25}$ atoms     | (82.26 mole)                   |
| 10) $8.67 \times 10^{22}$ atoms | (0.144 mole)                   |

## Moles of Compounds: Two Step Problems

(Number in parentheses is the answer obtained at the end of the first step. It may help you to track any errors.)

- |                                    |                                  |
|------------------------------------|----------------------------------|
| 1) $1.2 \times 10^{24}$ molecules  | (1.9475 mole)                    |
| 2) $3.0 \times 10^{23}$ molecules  | (0.4996 mole)                    |
| 3) $3.0 \times 10^{23}$ molecules  | (0.4999 mole)                    |
| 4) $1 \times 10^{25}$ molecules    | (16.663 mole)                    |
| 5) $3.91 \times 10^{21}$ molecules | (0.0065 mole)                    |
| 6) 70.9 g                          | (1 mole)                         |
| 7) 32.0 g                          | (0.500 mole)                     |
| 8) 132 g                           | (3.0 mole)                       |
| 9) $6 \times 10^{-20}$ g           | ( $1.6666 \times 10^{-21}$ mole) |
| 10) $3 \times 10^{-23}$ g          | ( $1.666 \times 10^{-24}$ mole)  |